New Orleans, La., on the 27th and 28th. The Ohio River was 5.7 feet above the danger point at Cincinnati, Ohio, on the 28th, and 7.6 feet above at Louisville, Ky., on the same date. The Cumberland River was 3.4 feet above the danger point at Nashville, Tenn., on the 28th. The Tennessee River was 1.8 foot above the danger point at Chattanooga, Tenn., on the 28th. The Willamette River was 13.7 feet above the danger point at Portland, Oregon, on the 5th.

ATMOSPHERIC ELECTRICITY.

AURORAS.

Sault de Ste. Marie, Mich., 14th: an auroral display was observed at 9.40 p. m., consisting of a well-defined arch of yellowish light which rose to about altitude 40°. The arch extended between north and northeast, and the maximum brilliancy of the aurora occurred at 10.50 p. m., after which the arch gradually disappeared, and at 11.20 p. m. the display had entirely vanished.

Marquette, Mich., 14th: an auroral display, consisting of a dark segment which rose about twenty-five degrees above the horizon, and also of an arch of pure white light which extended from northwest to northeast, was observed in the evening.

Auroras were observed during the month as follows: 1st, Orono, Me. 6th, Wapeton, N. Dak. 11th, Cresco, Iowa; Eastport and Orono, Me.; Leech Farm, N. Dak.; Webster, S. Dak. 13th, Orono, Me. 14th, Cresco, Iowa; Marquette and Sault de Ste. Marie, Mich.; Leech Farm, N. Dak.; Greenwood, Wis. 15th, Lewiston, Pa. 18th, Manitowoc, Wis. 20th, Montevideo, Minn.

THUNDER-STORMS.

The more severe thunder-storms of the month are described under "Local storms". East of the Rocky Mountains thunder-storms were reported in the greatest number of states and territories, twenty-four, on the 25th; in twenty on the 24th; in sixteen on the 26th; in fifteen on the 18th; in fourteen on the 19th and 28th; in from five to eleven, inclusive, on the 3d, 4th, 6th, 7th, 8th, 13th, 14th, 17th, 20th, 23d, and 27th; and in from one to three, inclusive, on the 1st, 2d, 9th to 12th, 21st, 22d. The 5th, 15th, and 16th were the only dates on which no thunder-storms were reported east of the Rocky Mountains.

East of the Rocky Mountains thunder-storms were reported on the greatest number of dates, twelve, in Louisiana, Mississippi, Pennsylvania, and Texas; on eleven dates in Tennessee; on ten dates in Alabama, Arkansas, and Illinois; on from five to nine dates, inclusive, in Florida, Georgia, Indiana, Kentucky, Maryland, Michigan, Missouri, New Jersey, New York, North Carolina, Ohio, South Carolina, Virginia, and West Virginia; and on one or two dates in Connecticut, District of Columbia, Indian Territory, Iowa, Kansas, Massachusetts, Minnesota, Rhode Island, and Wisconsin. In states and territories east of the Rocky Mountains other than those named, no thunder-storms were reported. The only states west of the Rocky Mountains reporting thunder-storms were: California, 16th and 19th; New Mexico, 6th and 26th; and Utah 26th.

MISCELLANEOUS PHENOMENA.

HALOS.

Solar and lunar halos were reported in New England and the middle Atlantic states on twenty-five dates. On twenty-four dates rain or snow fell in that region on the dates for which halos were reported; on twenty-two dates on the second day; and on twenty dates on the third day following the halos. In the south Atlantic states halos were reported on fifteen dates. On thirteen dates rain fell on the dates for which halos were reported; on ten dates on the second day; and on eight dates on the third day following the halos. In the Lake region halos were reported for twenty-two dates. On nineteen dates rain or snow fell on the dates for which halos were reported; on seventeen dates on the second day; and on fifteen dates on the third following the halos. In the Mississippi and Ohio valleys halos were reported on twenty-three dates. On eighteen dates rain or snow fell on dates for which the halos were reported; on seventeen dates on the second day; and on seventeen dates on the third day following the halos. In the Gulf states halos were reported on eight dates. On eight dates rain fell on the dates for which the halos were reported; on five dates on the second day; and on seven dates on the third day following the halos. In the Rocky Mountain and plateau regions halos were reported on eight dates. On six dates rain or snow fell on the days for which the halos were reported; on six dates on the second day; and on six dates on the third day following the halos. In the Missouri Valley halos were reported on twenty dates. On sixteen dates rain or snow fell on the days for which halos were reported; on thirteen dates on the second day; and on ten dates on the third day following the halos. On the Pacific coast halos were reported on seventeen dates. On fourteen dates rain fell on the dates for which halos were reported; on fourteen dates on the second day; and on fourteen dates on the third day following the halos.

The above statement shows that in New England and the middle Atlantic states 96 per cent. of the halos were attended by rain or snow in the regions referred to on the same date; 89 per cent. were followed on the second day, and 80 per cent. on the third day by rain or snow. In the south Atlantic states 87 per cent. of the halos were attended by rain on the same date; 67 per cent. were followed on the second day, and 53 per cent. on the third day by rain. In the Lake region 86 per cent. of the halos were attended by rain or snow on the same day; 77 per cent. were followed on the second day, and 68 per cent. on the third day by rain or snow. In the Mississippi and Ohio valleys 78 per cent. of the halos were attended by rain or snow on the same day, and 74 per cent. were followed on the second and third days by rain or snow. In the Gulf States 100 per cent. of the halos were attended by rain on the first day; 63 per cent. were followed on the second day, and 87 per cent. on the third day by rain. In the Rocky Mountain and plateau regions 78 per cent. of the halos were attended by rain or snow on the same day, and 78 per cent. were followed on the second and third days by rain or snow. In the Missouri Valley 80 per cent. of the halos were attended by rain or snow on the same day; 65 per cent. were followed on the second day, and 50 per cent. on the third day by rain or snow. On the Pacific coast 82 per cent. of the halos were attended by rain or snow on the same day, and 82 per cent. were followed on the second and third days by rain or snow. It is also shown that in New England and the middle Atlantic states 64 per cent. of the halos occurred in the eastern quadrants of low pressure storms, and 36 per cent. following the passage of areas of low pressure or within areas of high pressure. In the south Atlantic states 53 per cent. of the halos occurred in the eastern quadrants and 47 per cent. in the western quadrants of low pressure storms. In the Lake region 59 per cent. of the halos occurred in the eastern quadrants and 41 per cent. in the western quadrants of low pressure storms. In the Mississippi and Ohio valleys 56 per cent. of the halos occurred in the eastern quadrants and 44 per cent.